

A NEW SPECIES OF *COSCINOPTERA* LACORDAIRE FROM
CALIFORNIA (COLEOPTERA: CHRYSOMELIDAE)

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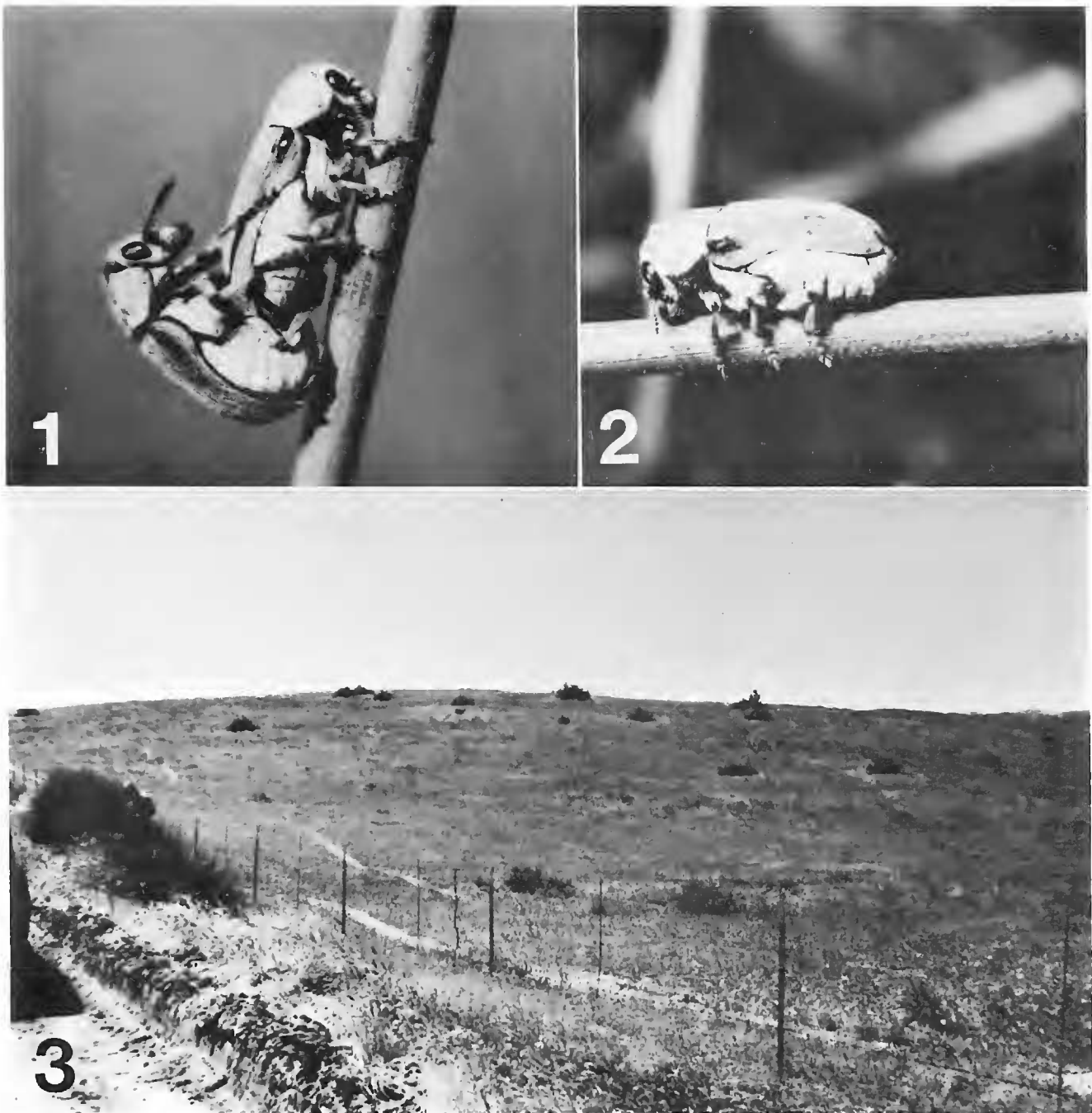
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In California, the State and County departments of agriculture annually perform various surveys aimed at detecting new plant pest introductions, the primary goal being early detection and possible eradication. Entryway surveys covering the routes of transportation, i.e. roads, canals, railroads, etc., are generally for detection of introduced plant species. However, in June of 1977, two Fresno County Department of Agriculture inspectors performing an entryway survey in the area along Panoche Road near the Fresno-San Benito County line collected a pair of chrysomelids from *Ephedra californica* Wats. Knowing my interest in this group, the beetles were submitted to me for identification. These were recognized as an undescribed Clytrinae and recollection the following year yielded numerous additional specimens and biological data.

The genus *Coscinoptera*, to which this new species belongs, is represented in North America by seven species and fourteen subspecies (Moltenke, 1970). Only one of these can be found in California, north of the Tehachapi Mountains of southern California and west of the Sierra Nevada Mountains. For a North American representative, this new species is one of the largest to be found.

***Coscinoptera panochensis*, new species**
(Figs. 1, 2, 4)

Holotype male.—Length 7.10 mm, width 3.45 mm. *Head* shiny black, punctuation of vertex and frontal area obscured by thick, white pubescence. Eyes black, oval and entire. Antennae not attaining hind margin of pronotum; basal segment black, globose and thickly pubescent; segments 2-4 testaceous, clavate and sparsely pubescent, becoming darkened towards apex. Clypeus broadly emarginate and black, narrow lateral and anterior margins lacking pubescence. Labrum alutaceous with scattered setigerous punctures along anterior margin, lateral margins rufo-testaceous graduating to black in center and lacking pubescence. Mandibles black and enlarged; pubescent basally. *Pronotum* widest basally, transverse (approx. 1.5× wid-



Figs. 1-3. Fig. 1. *C. panochensis* mating pair in situ on leaf of *E. californica*. Fig. 2. *C. panochensis* male with clearly defined glabrous humeral area. Fig. 3. *Ephedra californica* (large plants) at type locality.

er than long), black, thickly pubescent except for a median, smooth, longitudinal impunctate area which on the anterior half is narrow and obscured by the pubescence, the posterior half is wider and exposed; hind angles distinctly angulate, nearly 90° . *Elytra* black, covered with thick, white, appressed pubescence except humeral callus; widest anteriorly; tapering slightly posteriorly. *Scutellum* black and pubescent. *Venter and pygidium* black, copiously pubescent, much more so than the dorsum or the legs. *Legs* black, coxae pubescent only distally, remaining segments intermediate in pubescence between elytra and venter; tarsal claws widened basally forming a very indistinct obtuse tooth.

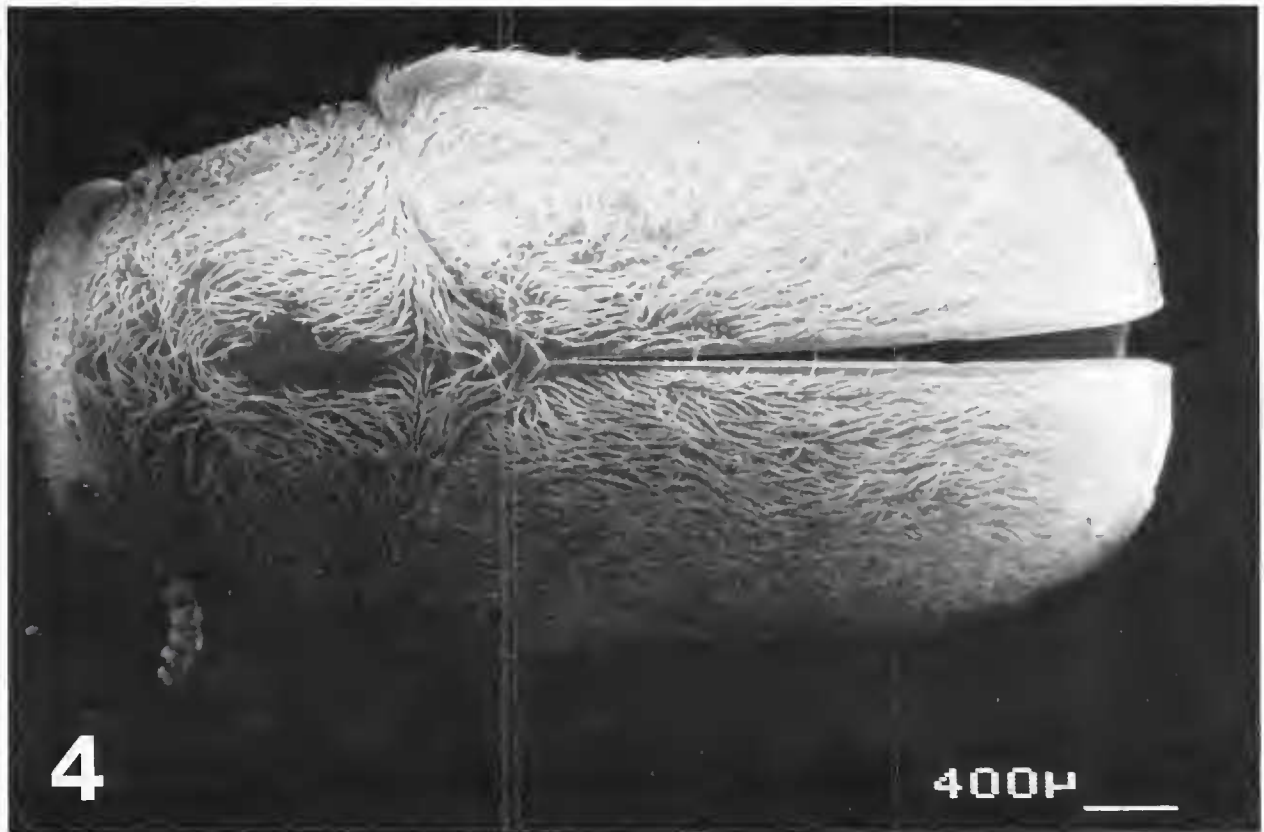


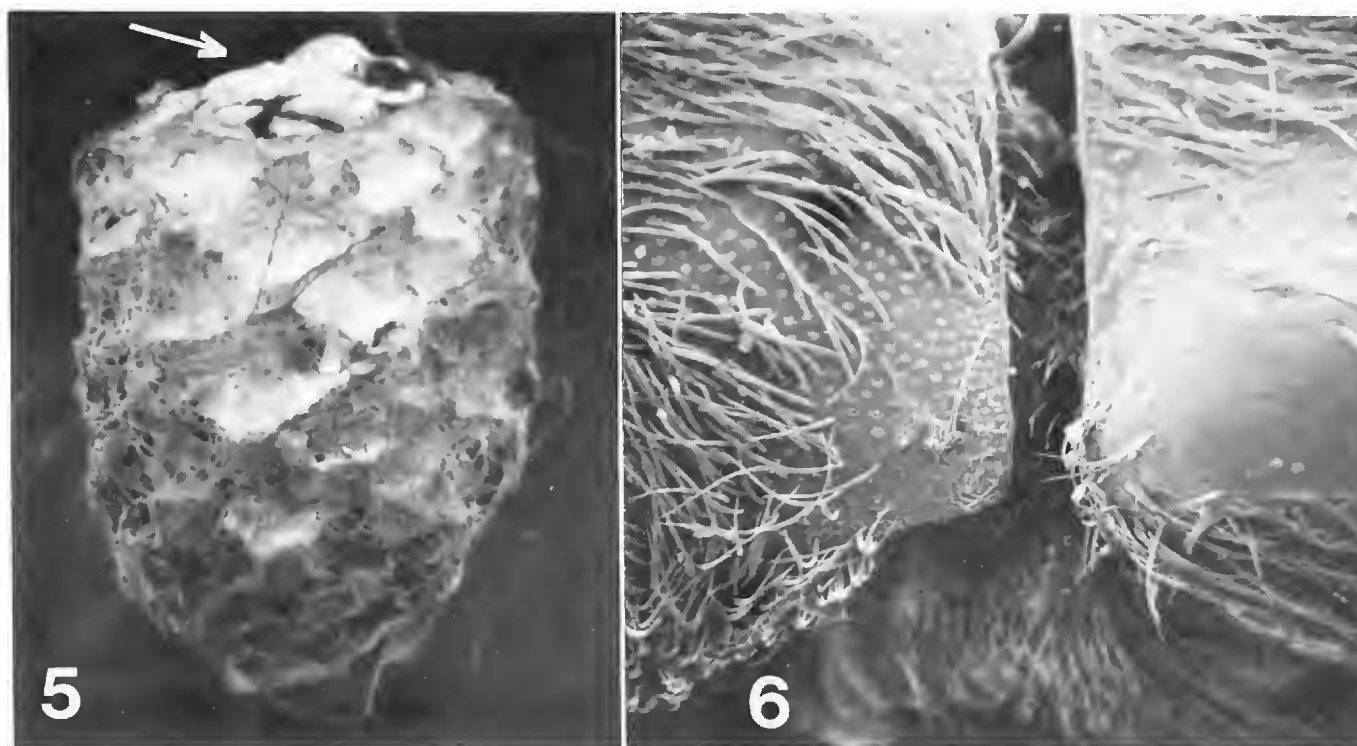
Fig. 4. SEM of *C. panochensis* viewed dorsally with five clearly defined black, glabrous areas (eyes, pronotum and humeri) in contrast to overall grayish appearance.

Males range in size from 6.25–7.50 mm in length and from 3.05–3.65 mm in width.

The female differs from the male in the following characters: size larger, 6.55–7.95 mm in length and 3.20–4.00 mm in width. Mandibles not enlarged, not extending laterally much beyond the anterior corners of the clypeus when closed. Venter with an oval, median, glabrous depression on the fourth and fifth segments, which is punctured on the periphery and terminates midway on the fourth segment. Antennae shorter reaching posteriorly to about middle of pronotum.

Holotype.—Male (CAS #13400): California, San Benito Co., 8.2 mi on Panoche Rd. W from I-5 (Interstate Highway), V-21-1978, collected from *Ephedra californica* Wats., A. J. Gilbert, F. G. Andrews, S. Kuba.

Paratypes.—15 males, 18 females same data as holotype. All other specimens are from the type locality and host, only the dates and collectors vary as noted. 1 male, 1 female, VI-19-1977, W. Peregrin, D. Haines; 4 males, 4 females, V-13-1978, A. J. Gilbert, D. A. Burdick, G. Caseri, W. Peregrin; 10 males, 5 females, V-21-1978, S. Kuba, F. Andrews; 41 males, 42 females, V-30-1978, A. J. Gilbert, D. A. Griffin; 1 female, V-14-1979, A. J. Gilbert, D. A. Griffin; 9 males, 10 females, V-19-1979, A. J. Gilbert, D. A. Griffin; 8 males, 5 females, V-23-1979, A. J. Gilbert, D. A. Griffin. Specimens are deposited in USNM, CAS, Calif. Dept. Food and Agric., Brit. Mus. Nat. Hist., MCZ, Univ. Calif., Davis, Fresno Co. Dept. Agric. and A. J. Gilbert.

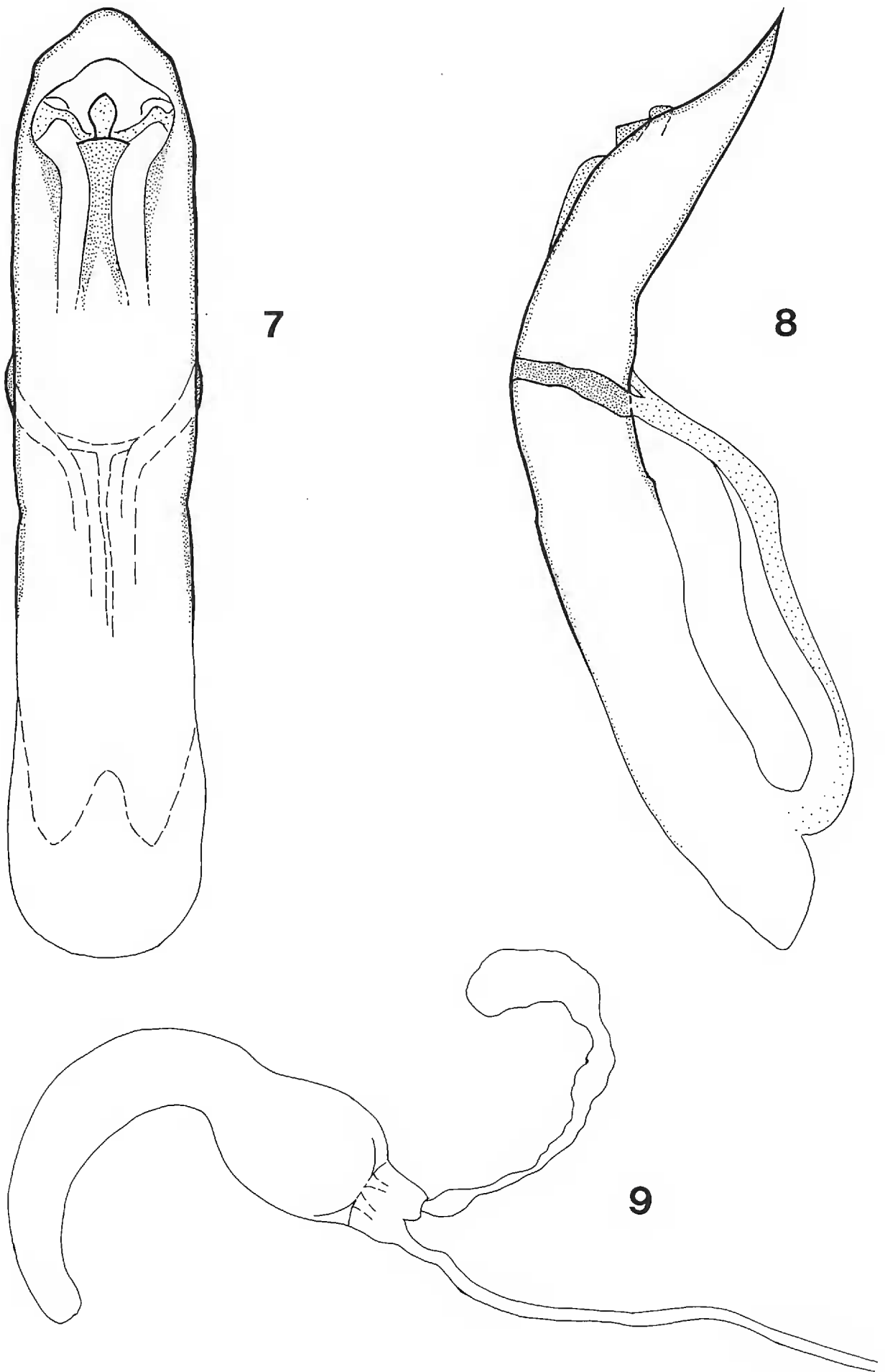


Figs. 5–6. Fig. 5. SEM of hatched egg minus the stalk. First instar larva partially exposed at top. Fig. 6. SEM of angulate posterior corner of pronotum.

Additional specimens.—1 male, V-21-1978, A. J. Gilbert, S. Kuba, F. Andrews; 1 male, V-21-1978, S. Kuba, F. Andrews; 1 female, V-30-1978, A. J. Gilbert, D. A. Griffin; 1 male, V-30-1978, A. J. Gilbert, D. A. Griffin. The last specimen cited possesses an aberrant left antenna with an enlarged sixth segment from which emanates two four-segmented continuations.

Distribution.—Efforts to collect *C. panochensis* at other *Ephedra* sites in Fresno and San Luis Obispo counties were unproductive. However, as this paper was being submitted for publication, two specimens (1 male, 1 female), were discovered in a drawer of unsorted material in the collection of the California Department of Food and Agriculture. The data are as follows: California, Riverside County, Whitewater Canyon, 26 May 1976, on *Ephedra*, Larry Bezark collector. They agree in all respects with the Panoche specimens. The determined and unsorted material in the collection at the University of California, Riverside has been examined. There were no specimens of *C. panochensis* in the material, including that from the Boyd-Deep Canyon Research Station, an area which has received a great deal of attention and is very near Whitewater Canyon. Apparently the range of this beetle is not restricted to the Panoche area.

Of the six species groups in the genus *Coscinoptera* mentioned by Moldenke (1970), *C. panochensis* would be best placed in the *dominicana* group. Except for the distinctly angulate posterior pronotal corner (Fig. 6), morphological features and geographical distribution align closely with other members of this group. The adult host *Ephedra californica* Wats. (Gymnospermae: Gnetaceae) is an unusual host for members of the genus, which



Figs. 7-9. Fig. 7. Dorsal aspect of the aedeagus. 40 \times . Fig. 8. Lateral aspect of the aedeagus. 40 \times . Fig. 9. Spermatheca. 100 \times . The spermathecal pump has a lateral twist and does not lie in the same plane as the rest of the structure.

are usually associated with various flowering plants (Angiospermae) including the Mimosaceae, Polygonaceae, Leguminosae and Anacardiaceae (Moldenke, 1970).

Moldenke (1970) presents a key to the *Coscinoptera* of North America. *Coscinoptera panochensis* would run to couplet 9A, as *C. mucorea inornata* Fall. However, *C. panochensis* can be easily differentiated from this species (which belongs to the *axillaris/mucorea* group) by *panochensis*' larger size, enlarged mandibles in the male, glabrous humeral and pronotal areas, denser pubescence, nearly parallel sides, by distinct black coloration and the bi-colored antennal segments 5–11 which are entirely black in *C. m. inornata*. Most of these features will also readily separate *C. panochensis* from other members of the *dominicana* group.

Biology.—The following subjective observations should be noted. Adult beetles are active fliers not showing preference for any time of day. Most specimens were found clinging to the outer extremities of the host. When approached they would attempt to hide by circling the stem (leaf), or take flight. Mating was observed on the host, with the male mounting the female from the rear and assuming an almost perpendicular orientation to the female (Fig. 1). Mating pairs were docile and were not as readily disturbed as were individuals. Eggs were laid individually on a stalk of approximately 5 mm in length. The female would orient in a head to the ground position while laying and the rear legs were active tools in the egg laying process, apparently guiding, pulling or supporting the stalk as it emerged from the abdomen. As many as 13 eggs were found on a single branch (a hatched egg without the stalk is pictured in Fig. 5). Eggs collected V-21-1978 and held at room temperature hatched in about 7 days. First instar larvae emerged from one of the long ends of the ovate egg and used the remainder of the egg as living quarters. When in motion the larvae would extend far enough out of the case for the legs to be used. When disturbed they would retract completely within the case. Larvae that emerged lived only a few days and none developed beyond the first instar.

Attempts were made to collect the larval stage by sweeping the host plant throughout the summer of 1978, by taking berlese samples under *Ephedra* periodically and by deploying anti-freeze pit traps near the plants. The pit traps were serviced monthly and inspected for larvae. All efforts were negative.

Acknowledgments

I would like to thank Wayne Peregrin and Dennis Haines for bringing the original specimens to my attention and for guiding me to the exact locality. Appreciation is also extended to Dennis Haines for the determination of the host plant. I am also indebted to Denis Griffin for field assistance in recollections and in taking pit trap and berlese samples in search of larval spec-

imens. I would also like to thank Alan Hardy, Paul Tuskes, and Terry Seeno for their constructive reviews and Rose Niino and Joanne Shimada for typing the paper.

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The drawings of the male and female genitalia were prepared and drawn by Iris Savage for which I am grateful.

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